COLORADO REFINING COMPANY
A SUBSIDIARY OF TOTAL PETROLEUM, INC.

5800 BRIGHTON BOULEVARD
COMMERCE CITY, COLORADO 80022

TELEPHONE 303 295-4500

August 25, 1995

Ms. Kate Fry
Prevention Section, Emergency Response Branch
U. S. EPA, Region 8
999 18th Street, Suite 500
Denver, Colorado 80202-2466

Dear Ms. Fry:

Enclosed with this letter please find a draft Spill Prevention, Control and Countermeasures (SPCC) Plan which has been revised to address the deficiencies identified by the EPA in a letter dated July 24, 1995. I am submitting this plan for your comments in order for us to consider any comments you may have prior to submitting our response to the agency's July 24 letter. If you have any comments, please submit them to me as soon as possible so that we can submit our formal response in the very near future. You may also call me at (303) 291-2451 if you wish to discuss any issues.

Thank you for your assistance in this matter.

Sincerely,

Randy Matsushima
Environmental Manager

DRAFT

SPILL PREVENTION CONTROL & COUNTERMEASURE PLAN
PART I
GENERAL INFORMATION

1. **Name of facility:** Colorado Refining Company

2. **Type of facility:** Onshore Facility-Petroleum Refinery

3. **Location of facility:** 5800 Brighton Blvd.
   Commerce City, Colorado 80022

4. **Name and address of owner or operator:**
   Name: Same as above
   Address: See above

5. **Designated person accountable for oil spill prevention at facility:**
   Name and Title: S. E. Sondergard, Refinery Manager

6. **Facility experienced a reportable oil spill event during the twelve months prior to January 10, 1974** (effective date of 40 CFR, Part 112). (If YES, complete Attachment #1). No

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MANAGEMENT APPROVAL
This SPCC Plan will be implemented as herein described.

Signature _____

Name S. E. Sondergard

Title Refinery Manager

CERTIFICATION

I hereby certify that I have examined the facility, and being familiar with the provisions of 40 CFR, Part 112, attest-that this SPCC Plan has been prepared in accordance with good engineering practices.

Michael R. Dusenbury
Printed Name of Registered Professional Engineer

_____
Signature of Registered Professional Engineer

Date August 22, 1995 **Registration No.** 15630 **State** Colorado

PART I
GENERAL INFORMATION

7. Potential Spills-Prediction & Control: *

Source	Major Type of Failure	Total Quantity (bbls)	Rate (bbls/hr)	Direction of Flow	Secondary Containment
A. South 1/2 of STF	T-6	200,000	Contained	Contained	Yes
B. North 1/2 of STF	T-10	55,000	"	"	Yes
C. ETF	T-34	65,000	"	"	Yes
D. HVGO TF	T-31	32,590	"	"	Yes
E. WWT TF	T-19	25,000	"	"	Yes
F. Slop TF	T-16	1,400	"	"	Yes
G. Process Area	Pipes or Vessels	1,300	"	To Oily Sewer	Water Treatment System
H. Oxygenate Rail car Facility	Tank Car	750	"	Contained	Yes
I. Trucked Crude Facility	Truck Tank	225	"	"	Yes

Discussion: Quantities from failures are prevented from leaving the facility by secondary containment; therefore, rate and direction of flow from spills do not apply. For sources A, B, D, E, F, & G, in the event a spill escapes its secondary containment, a final discharge diversion structure in the form of a drop gate dam is provided. Sources A, B, &C have earthen dikes for secondary containment. Sources D, E, &F have reinforced concrete wall secondary containment. Sources G&I are concrete paved areas with contaiment curbs and an oily water sewer system. Source H employs a drainage cutoff ditch which also serves as a catchment basin to prevent any offsite release.

Periodic and systematic groundwater monitoring and buried pipe pressure testing are performed to detect underground leakage.

* Maps are attached showing major features and ground water monitoring wells.

Name of facility Colorado Refining Company

Operator Same

PART I
GENERAL INFORMATION

[Response to statements should be: YES, NO, or NA(Not Applicable).]

8. Containment or diversionary structures or equipment to prevent oil from reaching navigable waters are practicable. (If NO, complete Attachment #2). Yes

9. **Inspections and Records**
   A. The required inspections follow written procedures. Yes
   B. The written procedures and a record of inspections, signed by the appropriate supervisor or inspector, are attached. No
   Discussion: Inspections of major process equipment are done by our API certified refinery inspector. API procedures are followed. Groundwater monitoring and buried line pressure test data records are available at the refinery.

10. **Personnel, Training, and Spill Prevention Procedures**
   A. Personnel are properly instructed in the following:
      (1) operation and maintenance of equipment to prevent oil discharges, and Yes
      (2) applicable pollution control laws, rules, and regulations. NA
      Describe procedures employed for instruction: On the job training of new personnel by experienced personnel and verbal instructions by the supervisor of critical aspects of the job. Refinery emergency procedure actions are posted at operators' telephones so appropriate authorities may be notified.

   B. Scheduled prevention briefings for the operating personnel are conducted frequently enough to assure adequate understanding of the SPCC Plan. Yes
      Describe briefing program: Quarterly meetings are held by the product supply department to administer training and discuss issues. Issues can include, but are not limited to, recent spills or "near misses," operational difficulties, and changes in policies and procedures.

Name of facility Colorado Refining Company

Operator Same

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

A. Facility Drainage

1. Drainage from diked storage areas is controlled as follows (include operating description of valves, pumps, ejectors, etc. (Note: Flapper-type valves should not be used): Manually operated pumping systems or the vacuum truck is used to transfer all drainage from diked areas to a oily water separator or the waste water treatment system.

2. Drainage from undiked areas is controlled as follows (include description of ponds, lagoons, or catchment basins and methods of retaining and returning oil to facility): For the trucked crude facility drainage is controlled by gravity flow inside a containment curb to a doublewalled FRP oil sewer system & a UST with high level alarm. The water is transferred by vacuum truck to an oily water separator in the onsite waste water treatment system. For the process areas drainage is controlled by gravity flow inside of curbs and fire walls to oil sewer system and to API Oil-Water separator. Oil is returned to facility, water is pumped to biological treatment system. Treated water is pumped to Sand Creek. Separator and treatment systems employ pump transfer with equal standby pumping.

   The Oxygenate Railcar Facility uses a drainage cutoff ditch/ catchment basin where oily drainage is transfered by vacuum truck to an oily water separator in the onsite waste water treatment system.

3. The procedure for supervising the drainage of rain water from secondary containment into a storm drain or an open watercourse is as follows (include description of (a) inspection for pollutants, and (b) method of valving security). (A record of inspection and drainage events is to be maintained on a form similar to Attachment #3):

   For control in process area see A-2. In diked areas water is contained or transfered to waste water treatment by pumping if required. In all cases , for these areas, drainage is treated through the onsite refinery WWTS before being discharged, under permit, to Sand Creek.

Name of facility Colorado Refining Company

Operator Same

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

[Response to statements should be: YES, NO, or NA (Not Applicable).]

B. Bulk Storage Tanks

1. Describe tank design, materials of construction, fail-safe engineering features, and if needed, corrosion protection: Cylindrical tanks above grade of welded steel plate based on sand cushion or concrete ring foundation. Corrosion protection of walls and roof by paint. Berms promote drainage away from tanks. Tank paint periodically renewed. Tanks have gauging devices which provide immediate indication of tank level. New tanks T-46, T-47, &T-20 and repaired tanks T-24, T-25,& T-28 have leak detection membrane beneath steel floor plates. FRP or epoxy linings are used in tanks experiencing interior corrosion. Tanks are gaged daily and gages are calibrated monthly. Pumpers, gagers, and product supply management communicate by 2-way radio.
2. Describe secondary containment design, construction materials, and volume Secondary containments are mostly dikes from selected native soil. The soils used have the properties to contain a spill. In limited space areas walls are made of reinforced concrete. No concrete blocks are used as dikes. Removable gates are kept closed and may be opened by authorized personnel only. All dikes will contain the volume of the largest tank within it plus 6-inches of rain. Any portable tanks are located so that a total failure will not result in a release from the facility.
3. Describe tank inspection methods, procedures, and record keeping: Tanks in all tank farms and plant areas are manually gauged every day and the gauger is on the alert for any leaks or tank disorders, which are reported to the Product Supply Manager. Repairs are initiated through the Work Order System. Daily inventory logs are used to detect any disorder. Periodic mechanical inspections are done by our refinery inspector, using the attached procedure INSTK02.001. Records are kept at the refinery.
4. Internal heating coil leakage is controlled by one or more of the following control factors:
   (a) Monitoring the steam return or exhaust lines for oil. NA
   Describe monitoring procedure: Steam coils are no longer used in bulk storage tanks
   (b) Passing the steam return or exhaust lines through a settling tank, skimmer, or other separation system. NA
   (c) Installing external heating systems. NA
5. Disposal facilities for plant effluents discharged into navigable waters are observed frequently for indication of possible upsets which may cause an oil spill event. Yes
   Describe method and frequency of observations: Oil separators skim and recycle oil. Water passing underflow weir is then biologically treated and discharged through a sand filter. Daily samples of of effluent water are taken and checked for quality standards. Through daily routine of operation throughout the plant, operators are constantly checking for spills and leaks.

Name of facility Colorado Refining Company

Operator Same

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

(Response to statements should be: YES, NO, or NA (Not Applicable).)

C. Facility Transfer Operations, Pumping, and In-plant Process*

1. Corrosion protection for buried pipelines:
   (a) Pipelines are wrapped and coated to reduce corrosion. Old lines: No; New lines: Yes
   (b) Cathodic protection is provided for pipelines if determined necessary by electrolytic testing. NA *
   (c) When a pipeline section is exposed, it is examined and corrective action taken as necessary. Yes
   (Unprotected pipe when exposed is examined for integrity and wrapped before backfilling whenever necessary. All new steel pipe is coated and wrapped.)
2. Pipeline terminal connections are capped or blank-flanged and marked if the pipeline is not in service or on standby service for extended periods. Yes
   Describe criteria for determining when to cap or blank-flange:
   For abandonment line is permanently capped or blinded. For standby service, line is valved and blinded if necessary.
3. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction. Yes
   Describe pipe support design:
   Supports are steel structures of various shapes. Vertical members are fireproofed to required heights. Sliding pads are provided for most process piping.
4. Describe procedures for regularly examining all above-ground valves and pipelines (including flange joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces):
   Daily visual inspection by operators, plant personnel, and periodic inspection by our refinery inspector. Also by teams of outside inspectors during turnarounds. Our inspection procedure for piping systems, INSPPG02.000, is attached.
5. Describe procedures for warning vehicles entering the facility to avoid damaging above-ground piping:
   By physical barriers, warning signals, or lights.

* Periodic and systematic groundwater monitoring and buried pipe pressure testing are performed. When feasible buried lines are replaced with above ground lines.

Name of facility Colorado Refining Company

Operator Same

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

(Response to statements should be: YES, NO, or NA (Not Applicable)

D. Facility Tank & Car Tank Truck Loading/Unloading Rack
Tank car and tank truck loading/unloading occurs at the facility. (If YES, complete 1 through 5 below.) Yes

1. Loading/unloading procedures meet the minimum requirements and regulations of the Department of Transportation. Yes

2. The unloading area has a quick drainage system. Yes

3. The containment system will hold the maximum capacity of any single compartment of a tank truck loaded/unloaded in the plant. Yes
Describe containment system design, construction materials, and volume: All truck spills are contained in a catch basin and drained to an oil separator or UST where they are then transferred by vacuum truck to the oil separator. The Oxygenate RR facility has an earthen cut off trench and catchment basin to prevent offsite release. Any spills at the heavy oil tank car area would be contained on-site at the loading area.

4. An interlocked warning light, a physical barrier system, or warning signs are provided in loading/unloading areas to prevent vehicular departure before disconnect of transfer lines. Yes
Describe methods, procedures, and/or equipment used to prevent premature vehicular departure: If a truck does leave prior to disconnecting transfer line the transfer is automatically stopped. There are warning signs posted.

5. Drains and outlets on tank trucks and tank cars are checked for leakage before loading/unloading or departure. Yes

Name of facility Colorado Refining Company

Operator Same

PART II, ALTERNATE A
DESIGN AND OPERATING INFORMATION
ONSHORE FACILITY (EXCLUDING PRODUCTION)

(Response to statements should be: YES, NO, or NA (Not Applicable).)

E. Security

1. Plants handling, processing, or storing oil are fenced. Yes

2. Entrance gates are locked and/or guarded when the plant is unattended or not in production. Yes

3. Any valves which permit direct outward flow of a tank's contents are locked closed when in non-operating or standby status. See Below

4. Starter controls on all oil pumps in non-operating or standby status are:
   (a) locked in the off position; No
   (b) located at site accessible only to authorized personnel. Yes

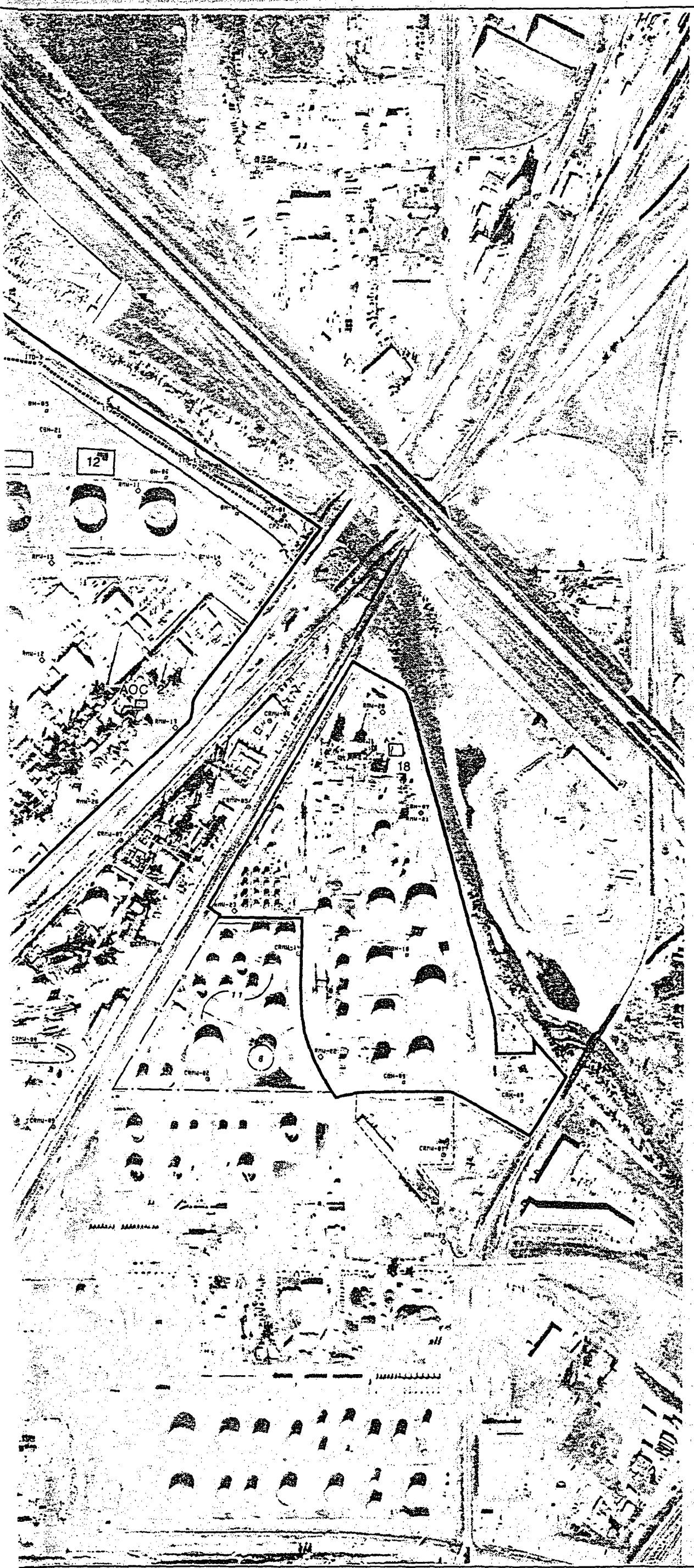
5. Discussion of items 1 through 4 as appropriate:

   Add #3: All valves on active tanks or vessels are tied to an enclosed piping system or are blinded. Water draw-off valves are not, but are in standby service and are operated only by authorized personnel. This is typical for all valves.

6. Discussion of the lighting around the facility: The ETF and the STF have 100' high mast, cluster lights for area lighting. In general, the facility lighting is adequate to detect a spill occuring during the hours of darkness.

Name of facility Colorado Refining Company

Operator Same



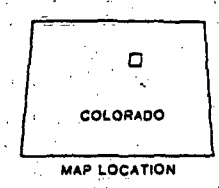
EXPLANATION

CONOCO SOLID WASTE MANAGEMENT UNITS (SWMUs) and AREAS OF CONCERN (AOCs)

1 FIRST CONTAINER STORAGE AREA
2 SECOND CONTAINER STORAGE AREA
3 SLUDGE TANK
4 API SEPARATORS
5 HOLDING TANK
6 SLOP OIL STORAGE TANK
7 SPENT CAUSTIC STORAGE TANKS
8 STORM WATER RUNOFF BASIN
9 WASTE PILE NO. 1
10 WASTE PILE NO. 2
11 OXIDATION TANK
12 LANDFILL NO. 1
13 DIVERSION POND
14 FCC CATALYST LANDFILL
15 WASTE STORAGE PIT
16 LEAD CONTAMINATED AREA
17 HEAT EXCHANGER BUNDLE CLEANING AREA
18 ASPHALT PLANT API SEPARATORS
AOC 1 WASTE LIME PIT
AOC 2 SULFUR BURIAL PIT
AOC 3 PLANT SEWER SYSTEM (Not Shown)
AOC 4 INTERCEPTOR TRENCH
AOC 5 RAIL CAR LOADING AREA

CRC AOC S
1 NINETY DAY WASTE ACCUMULATION AREAS
2 UPPER, MIDDLE, AND LOWER API SEPARATORS
3 SPENT CAUSTIC STORAGE TANK
4 SPENT CAUSTIC NEUTRALIZER
5 SLOP OIL STORAGE TANKS
6 AERATION LAGOON
7 WASTEWATER TREATMENT PONDS
8 TANK NO.57
9 PLANT SEWER SYSTEM (Not Shown)
10 HEAT EXCHANGER BUNDLE CLEANING AREA
11 EAST TANK FARM BERMED AREA
12 TRUCK TRANSFER STATION LINES

INTERCEPTOR TRENCH PIEZOMETER PAIRS
MONITORING WELL (CONOCO)
BOREHOLE
PIEZOMETER
MONITORING WELL (CRC)
INTERCEPTOR TRENCH
CONOCO INC. PROPERTY BOUNDARY
COLORADO REFINING COMPANY PROPERTY BOUNDARY
CLEAN-CLOSED SWMU or AOC



MAP LOCATION

200 0 100 200 400 600

SCALE IN FEET

Photo By American Reprographics - Denver, Colorado
Photo Date: October 25, 1990

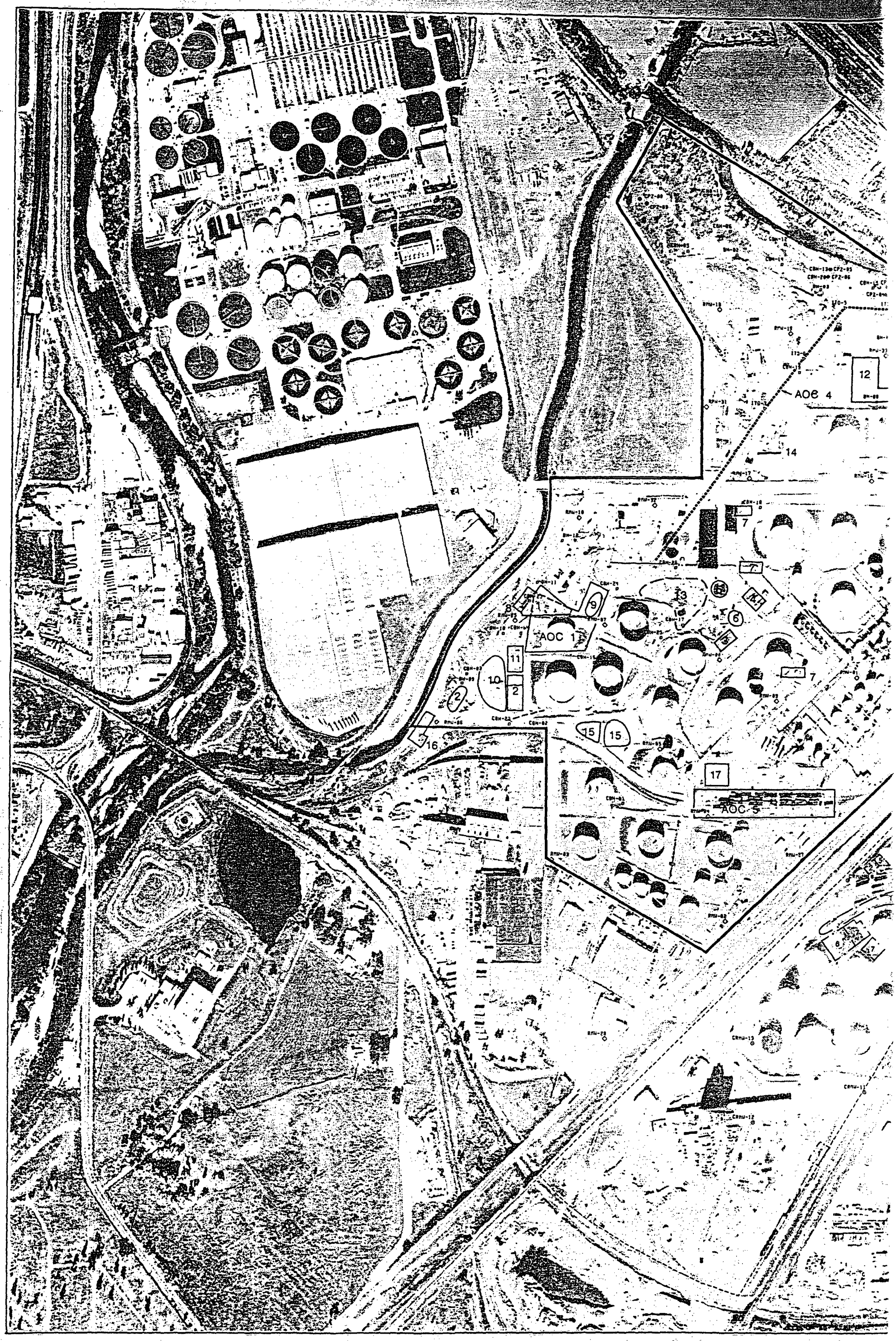
EnecoTech

CONOCO INC.-COLORADO REFINING COMPANY

COMMERCE CITY, COLORADO

LOCATIONS OF SOLID WASTE MANAGEMENT UNITS AND AREAS OF CONCERN

File No: 208-001 | Date:


AOC 4
AOC 1
AOC 5
12
14
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13
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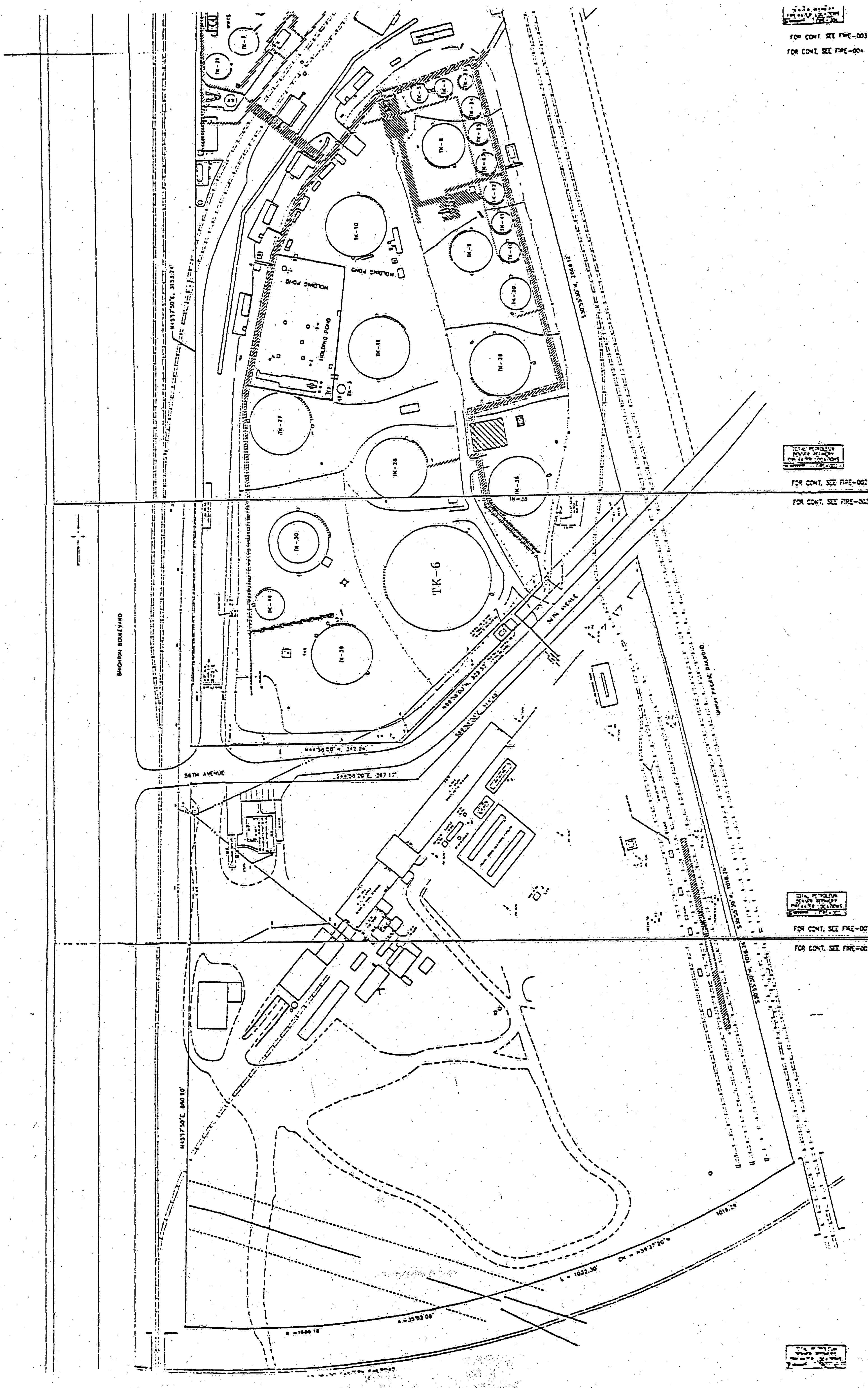
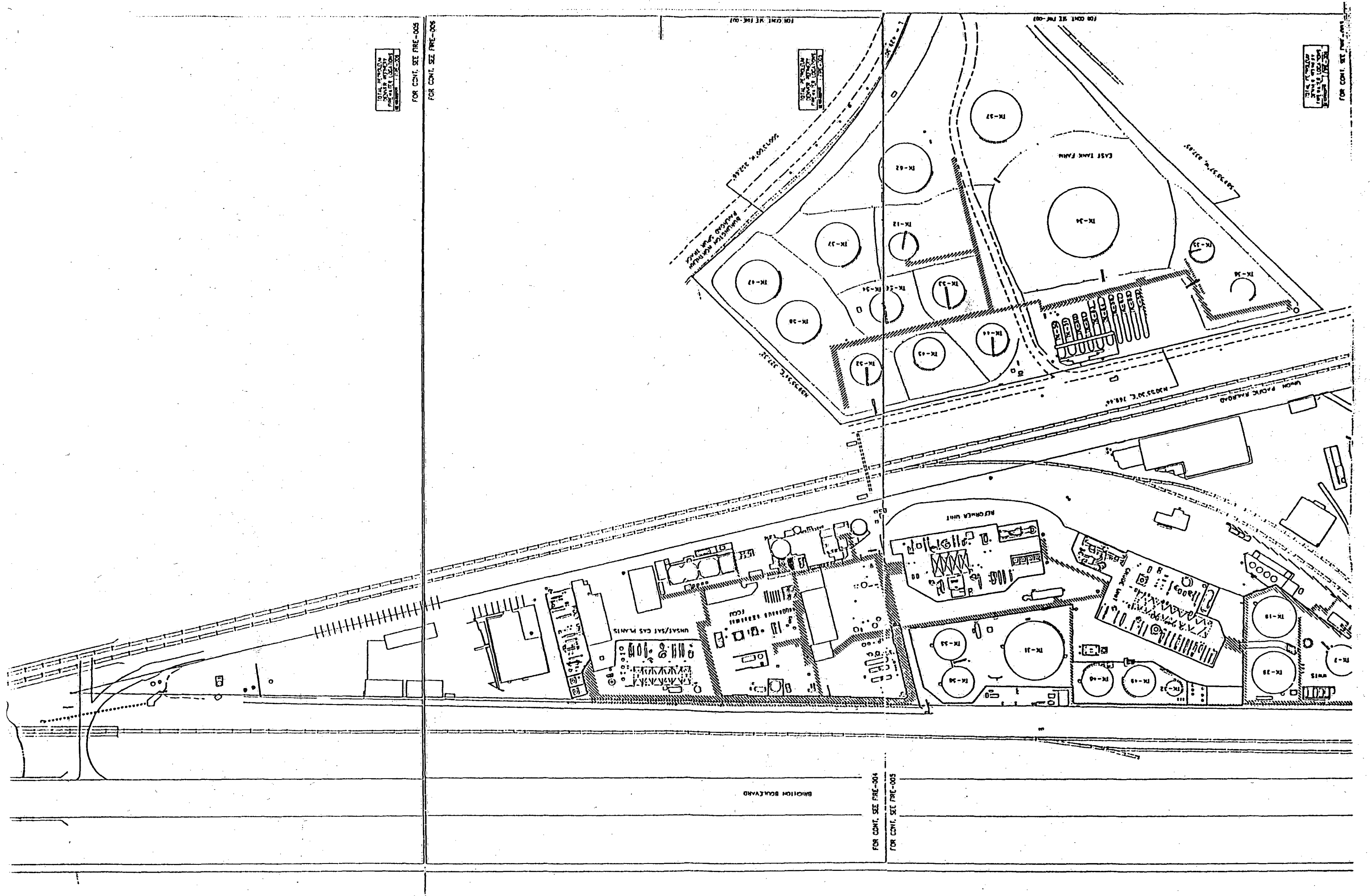
17



FOR CONT. SEE FIRE-003
FOR CONT. SEE FIRE-004
FOR CONT. SEE FIRE-002
FOR CONT. SEE FIRE-002
FOR CONT. SEE FIRE-001
FOR CONT. SEE FIRE-002
TK-6
TK-10
TK-11
TK-8
TK-9
TK-20
TK-27
TK-28
TK-30
TK-39
TK-21
HOLDING POND
HOLDING POND
BRIGHTON BOULEVARD
56TH AVENUE
56TH AVENUE
UNION PACIFIC RAILROAD


FOR CONT. SEE FIRE-005
FOR CONT. SEE FIRE-006
FOR CONT. SEE FIRE-007
FOR CONT. SEE FIRE-004
FOR CONT. SEE FIRE-005
TOTAL PETROLEUM (NEW ZEALAND) LIMITED
EAST TANK FARM
UNSAT/SAT GAS PLANTS
REFORMER UNIT
UNION PACIFIC RAILROAD
BRIGHTON BOULEVARD
BURLINGTON NORTHERN SANTA FE RAILROAD
IX-37
IX-62
IX-12
IX-34
IX-35
IX-36
IX-42
IX-43
IX-44
IX-32
IX-11
IX-19
IX-39
IX-40
IX-41
IX-1

TOTAL PETROLEUM, INC.
DENVER REFINERY
5800 BRIGHTON BOULEVARD
COMMERCE CITY, COLORADO, 80022

Telephone (303) 295-4500
Fax (303) 291-2453

INTER OFFICE MEMO

TO: All Pumping Department Personnel

DATE: August 31, 1994

FROM: Scott Klingler

SUBJECT: Rotating Equipment Inspection

Another awareness aspect of PSM, Process Safety Management, has arisen. This requires visual inspection of all rotating (pump) equipment. This is a Federal and State Air Monitoring Regulation.

To insure all pumps in your department are performing as designed, a new ***STANDARD OPERATING PROCEDURE*** is being implemented, beginning immediately.

Each shift, as you make your initial rounds of the tank farms, must check all pumps which are running, or pumps which run on demand, such as the loading dock pumps. Check for leaks at pump flanges and seals, and look for pools of product around the seals, if the pump is idle.

Each time you start a pump, whether at a local or remote location, go to the pump and check the pump for leakage. (NOTE: If the pumpers helper starts a pump it is the "A" pumpers responsibility the check the pump since the helper needs to be in attendance while loading or unloading a railcar). If the pump is leaking, shut down the pump and notify a supervisor. The rotating supervisor, or his appointed individual, will make an inspection to determine if the pump needs repaired or may remain in service.

Two copies are included, one is for your records, the other is to be initialed by you and returned to me. Comments or questions will be discussed.

R. Pointer
R. Hays
J. Romero
P. Donnel
R. Lucero
W. Geyer
N. Landry
G. Friedly
A. Giess
B. Greenrod
A. Lattany

cc: W. B. Forsyth
Files

VISPUMP.DOC

GENERAL TANK INSPECTION

TANK # _____

DATE_____
INSPECTED BY:_____
revised 1/25/95

	CHECK APPROPRIATE BOX		
EXTERIOR	AREAS OK		NEEDS ATTENTION
LEAKAGE, PITTING, FOAM SYSTEMS			
DENTS/DISTORTION			
CORROSION			
PAINT DETERIORATION			
HANDRAILS			
WELDS			
PLATFORM SUPPORTS			
PLATFORM AREAS			
CONE ROOFED TOPS			
GRADING PROPERLY ATTACHED			
NON SKID OK			
ANY NOTICEABLE VAPORS			
EXTERNAL FLOATERS			
ROOF CONDITION			
ROPE CONDITION			
SEAL CONDITION			
ROOF DRAIN VALVE OPEN			
ROOF DRAIN/LID AREA FREE OF DEBRIS			
MANWAYS, VALVES, NOZZLES			
NO SIGNS OF LEAKAGE			
AUTOMATIC GAUGING DEVICE			
THERMOMETER			
SWING LINES - TANK MIXERS			
FOUNDATION			
GAPS UNDER TANK			
WATER DRAINS AWAY FROM FOUNDATION			
AREA PIPING			

REMARKS_____

_____

_____

REV: 0
DATE: 03-23-95
SUPERVISOR: Michael E. McAdams
APPROVED: L.D. Brewer

TOTAL PETROLEUM INC.
DENVER REFINERY
5800 BRIGHTON BLVD.
COMMERCE CITY, CO. 80022

IN-SERVICE PIPING
Procedure No. INSPPG02

1.0 SCOPE

This procedure defines the relationship of the Inspection Organization to the Inspection, Repair, Alteration, and Rerating of existing piping systems.

2.0 APPLICATION

This procedure applies to QA/QC Inspectors and other personnel performing Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems as defined in API 570.

3.0 GENERAL

This procedure covers the following subjects:

1. Adoption of API 570 as the controlling code for In-Service Piping.
2. Recognition of service classes.
3. Defines a fourth service class for general utilities.
4. Describes where to locate TML's.
5. Describes the general inspection process.
6. Visual Inspection

7. Repairs, Alterations, and Rerates

8. Defines the application of the API 570 service classes within Pipe+.

4.0 REFERENCES

The following documents, have been referenced in the preparation of this procedure and are considered a part of this procedure:

American Petroleum Institute (API)

API 570 Inspection, Repair, Alteration, and Rerating of In-Service Piping Systems

Total Petroleum, Denver Refinery - Inspection Procedures

INSMT01-Magnetic Particle Inspection

INSPT01-Dye Penetrant Inspection

INSUT01-Ultrasonic Thickness Measuring

INSPPG03-Piping Fabrication Requirements.

5.0 API 570

API 570 shall be recognized as the controlling code for any in-service piping system inspection, repair, alteration, or rerating.

6.0 SERVICE CLASSES

6.1 All piping systems shall be categorized into four different service classes based on the potential hazards of the process fluids each system contains.

6.2 The three service classes recommended by API 570 shall be used as defined in API 570.

6.3 Class four shall be used at Total Petroleum, Denver Refinery, to define piping systems that are considered exclusions to API 570.

6.4 Piping systems defined by API 570 (para 1.1.2.2) as exclusions and/or optional shall be recognized as exclusions. The refinery inspector may require inspection, of an excluded piping system on a case by case basis.

Excluded systems are:

Steam
Condensate
Water
Boiler Feed
Firelines
Sewers (Process, Sanitary, and storm)
Tracers
Instrumentation lines
Piping diameters of NPS .5" and under
Chemical Injection Systems
Any other category "D" service as defined in ANSI B31.3
Non-metallic piping

7.0 INSPECTION

7.1 TML LOCATIONS

In general, a TML shall be located before, on, and after, each elbow. Straight runs shall have TML's located approximately every 50 to 100 feet. Other TML's may be added at the discretion of the inspector based on prior experience, service, or history.

Examples of TML locations are shown in APPX 1.

7.2 INSPECTION PROCESS

7.2.1 Trace out process lines on P&ID to determine product, service class, and location.

7.2.2 Draw isometric field sketches to show TML locations.

7.2.3 Measure pipe wall thickness using either U.T. or R.T.

7.2.4 Record measured thickness.

8.0 VISUAL

8.1 Visual inspection shall be done in accordance with API 570.

8.2 Inspect the piping outside surface, where visible, for leaks, pitting, corrosion, and mechanical damage ,(gouges, chaffing, deformation, laminations, cracking, etc.)

8.3 Inspect the pipe length for distortion, and damaged insulation where applicable.

8.4 Inspect flanges and valves for leaks and other damage, pipe hangers for proper support, movement, and clearance.

8.5 Note any threaded fittings that require backwelding and write workorder to correct.

9.0 Repairs, Alterations, and Rerates

9.1 Repairs, Alterations, and Rerates of existing piping systems shall be done in accordance with API 570.

10.0 Record Keeping

10.1 TML data may be recorded either on hard copy or in electronic files, which shall be located in the Inspection office.

10.2 Final recording of TML data shall be in Pipe+. (A software program that calculates estimated remaining life, and establishes inspection intervals.)

10.2.1 The maximum inspection interval for thickness measurement of class 1 and 2 systems shall be set at 5 years.

10.2.2 The service class shall be entered in the Pipe+ Equipment Circuit data screen in the "service" field.

10.2.3 The actual product shall be entered in the Pipe+ Equipment Circuit data screen in the second line of the description field when applicable.

10.3 Visual inspection notes may be recorded either on hard copy or in electronic file, which shall be located in the Inspection office.

10.4 Final recording of visual inspection notes shall be in Pipe+.

10.5 Final recording of Piping sketches showing TML locations shall be in the Pipe+ AutoCad link.

10.6 Documentation of Repairs, Alterations, and Rerates, shall be recorded as defined in Total Petroleum, Denver Refinery - Inspection Procedure INSPPG03 Piping Fabrication Requirements.

11.0 Glossary:

CLASS 1

Services with the highest potential of resulting in an immediate emergency if a leak were to occur are in Class 1. Such an emergency may be safety or environmental in nature. Examples of Class 1 piping include, but are not necessarily limited to, those containing the following:

a. Flammable services that may auto-refrigerate and lead to brittle fracture.
b. Pressurized services that may rapidly vaporize during release, creating vapors that may collect and form an explosive mixture, such as C_2, C_3, and C_4, streams.
c. Hydrogen sulfide (greater than 3 percent weight) in a gaseous stream.
d. Anhydrous hydrogen chloride.
e. Hydrofluoric acid.
f. Piping over or adjacent to water and piping over public throughways. (Refer to Department of Transportation and U.S. Coast Guard regulations for inspection of underwater piping.)

CLASS 2

Services not included in other classes are in Class 2. This classification includes the majority of unit process piping and selected off-site piping. Typical examples of these services include those containing the following:

a. On-site hydrocarbons that will slowly vaporize during release.
b. Hydrogen, fuel gas, and natural gas.
c. On-site strong acids and caustics.

CLASS 3

Services that are flammable but do not significantly vaporize when they leak and are not located in high-activity areas are in Class 3. Services that are potentially harmful to human tissue but are located in remote areas may be included in this class. Examples of Class 3 service are as follows:

a. On-site hydrocarbons that will not significantly vaporize during release.
b. Distillate and product lines to and from storage and loading.
c. Off-site acids and caustics.

CLASS 4

Definition is found in paragraphs ~~6.4~~ 6.3, 6.4

M.T. Magnetic Particle Testing

NPS National Pipe Size

P.T. Penetrant Testing

TML Thickness Measurement Location

U.T. Ultrasonic Testing

COLORADO REFINING COMPANY

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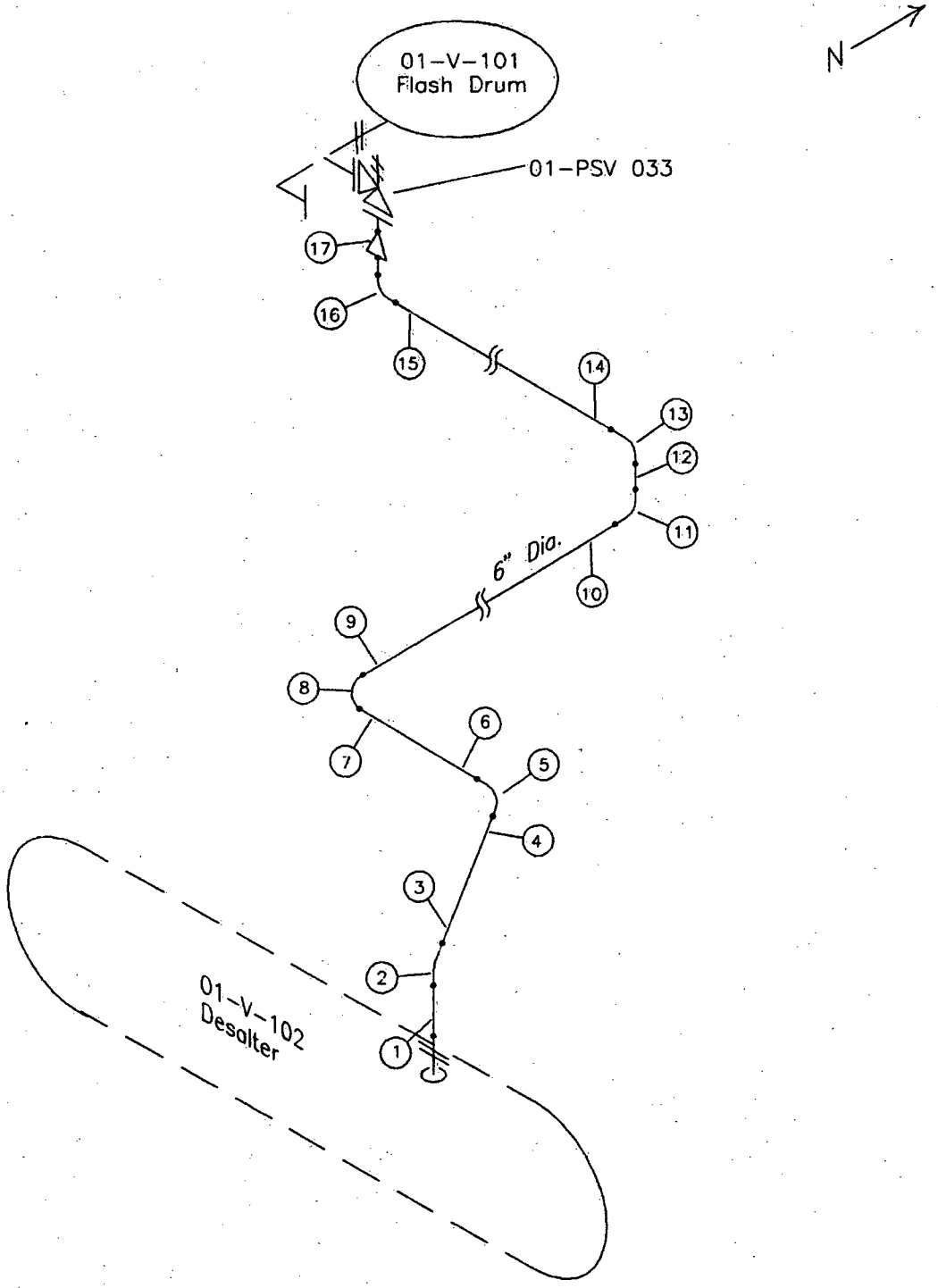
PIPING INSPECTION REPORT

DWG#: CRUDE-007-01-1.00-17.00	Line#: 7-C30-6"
Desc: 01-V-102 TO LINE # 177 (FLARE)	Service: PSV Line
EQUIP RETIREMENT DATE: SEP 2007 **NEXT INSPECTION IS DUE APR 1998**	Design 240 PSIG 300 'F Operating 240 PSIG 300 'F



Appendix 1

REV: 1
DATE: 2-24-95
SUPERVISOR: Mark E Mills
APPROVED: T R Brown

TOTAL PETROLEUM INC.
DENVER REFINERY
5800 BRIGHTON BLVD.
COMMERCE CITY, CO 80022

ATMOSPHERIC TANK INSPECTION PROCEDURE

INSTK02.001

1.0 SCOPE

This procedure defines the activities of the Inspection organization in relation to Atmospheric Pressure Aboveground Storage Tanks.

2.0 APPLICATION

This program applies to QA/QC Inspectors, Operators, and Environmental personnel.

3.0 DEFINITIONS

3.0.1 Storage Tanks shall refer only to carbon steel or low alloy steel Aboveground Storage Tanks designed to API 650 or it's predecessor 12C.

4.0 REFERENCE DOCUMENTS

API 653

API Guide for Inspection of Refinery Equipment

Federal 40 CFR Part 60

Colorado State Air Regulation # 7

5.0 INSPECTOR REQUIREMENTS

Certification to API 653, or under the supervision of an API 653 certified Inspector.

CRC U.T. Thickness Gauging Certification

6.0 ACTIONS

6.1 ROUTINE IN-SERVICE INSPECTION

The external condition of the tank shall be monitored by close visual inspection from the ground on a routine basis. This inspection may be done by owner/user personnel, and can be done by other than an API certified inspector. Personnel performing this inspection should be knowledgable of the storage facility, the tank and the characteristics of the product. The interval of such inspections shall be consistent with conditions at the particular site, but shall not exceed 1 month.

6.2 SCHEDULED INSPECTIONS

6.2.1 EXTERNAL

All storage tanks shall be given a formal visual external inspection by an API 653 certified inspector at least every 5 years or the quarter corrosion-rate life of the shell, whichever is less. Tanks may be in operation during this inspection. Inspection of all components shall be inspected in accordance with the recommendations of API 653.

6.2.2 Corrosion Monitoring

Ultrasonic thickness gauging may be performed to determine the rate of uniform corrosion. The extent and frequency of inspection shall be determined by the Chief Inspector. U.T. thickness data shall be kept in electronic format using Pipe+, or on hardcopy or both.

6.2.3 INTERNAL

Inspections shall be made primarily to inspect the floor for corrosion, leaks, settlement, integrity of internal attachments, and to supplement sidewall U.T. inspection data.

The frequency shall be based on API 653 Para 4.4.2, through Para 4.5, and the availability of the tank.

In no case shall the internal inspection interval exceed 20 years.

6.3 ROOF SEALS

Roof seals shall be inspected in accordance to the following paragraphs. The requirements in the following paragraphs are based on the most severe requirements combined from Federal 40 CFR Part 60 and Colorado State Air Regulation #7.

6.3.1 External Floating Roof Tank

A. Routine Inspections

1. Semi-Annually

2. Includes a visual inspection of the secondary seal gap if equipped with a secondary seal.

3. Ensure all seal closure devices meet the following:

   a. No visible holes, tears, or other openings in the seal or any seal fabric or material.

   b. The seal is uniformly in place around the circumference of the cover between the cover and the tank wall.

   c. All seals and gaskets on other roof fittings (such as anti-rotation devices, and vacuum breakers) are in place and serviceable.

4. Ensure that the general condition of the roof meets the following:

   a. The cover is floating uniformly on or above the liquid surface.

   b. No visible defects in the surface of the cover.

   c. Liquid on roof is draining adequately through the roof drain.

   d. Pontoon cells are dry and free of liquid (visible through cell hatches).

B. Primary Seal Inspections

1. Seal gap measurement shall be made during hydrotest of the vessel or within 60 days of the initial fill with VOL and at least once every 5 years thereafter.

2. Seal gap shall be measured in accordance with para (6.3.1(D.)

3. The accumulated area of gaps between the tank wall and the mechanical shoe or liquid mounted primary seal shall not exceed 10.0 in^2 per ft of tank diameter and the width of any portion of any gap shall not exceed 1.5 in.

4. The accumulated area of gaps and the width of any portion of any gap for a vapor mounted primary seal shall be the same as a secondary seal.

C. Secondary Seal Inspections.

1. Seal gap measurement shall be made within 60 days of the initial fill with VOL and at least once per year thereafter.

2. Seal gap shall be measured in accordance with para (6.3.1(D.)

3. The total gap area between the secondary seal and the wall of the tank shall not exceed 1.0 in^2 per ft diameter and the width of any portion of any gap shall not exceed 0.5 in.

D. Method to determine gap area.

1. Physically measure the length and width of all gaps around the entire circumference of the tank in each place where a 0.32 cm (1/8") uniform diameter probe passes freely (without forcing or binding against the seal) between the seal and the tank wall; and;

2. Sum the area of the individual gaps.

E. If any of the above items verify as a non-conformance the Environmental Manager must be notified Immediately.

6.3.2 Internal Floating Roof Tank

A. Routine inspection of seal through roof hatches.

1. Once every 6 months.

2. Measure for detectable vapor loss. (VOC conc. > 10,000 ppm. must be reported.)

3. Ensure during the inspection:

a. No visible holes, tears, or other openings in the seal or any seal fabric or material.

b. The cover is floating uniformly on or above the liquid surface.

c. No visible defects in the surface of the cover.

d. No liquid accumulated on the cover.

e. The seal is uniformly in place around the circumference of the cover between the cover and the tank wall.

B. Internal Inspection of cover and seal.

1. Whenever tank is out of service, OR

2. Whenever the routine inspection reveals detectable vapor loss.

3. In no case shall the inspection frequency exceed 10 years.

4. Must notify the Environmental Manager before such an inspection.

5. Ensure during the inspection:

   a. No visible holes, tears, or other openings in the seal or any seal fabric or material.

   b. The cover is floating uniformly on or above the liquid surface.

   c. No visible defects in the surface of the cover.

   d. No liquid accumulated on the cover.

   e. The seal is uniformly in place around the circumference of the cover between the cover and the tank wall.

   f. All seals and gaskets on other roof fittings (such as anti-rotation devices, and vacuum breakers) are in place and serviceable.

D. If any of the above items verify as a non-conformance the Environmental Manager must be notified Immediately.

7.0 RECORD KEEPING

7.1 General API 653 Inspections

Records of inspection results shall be kept in accordance with API 653. Records shall be stored in the appropriate Inspection Department Equipment files.

7.2 Seal Inspections

7.2.1 Maintain records of inspection results for a minimum of 10 years in the appropriate Inspection Department Equipment files.

7.2.2 Prepare and issue a report of findings to the Environmental Manager.

COLORADO REFINING COMPANY

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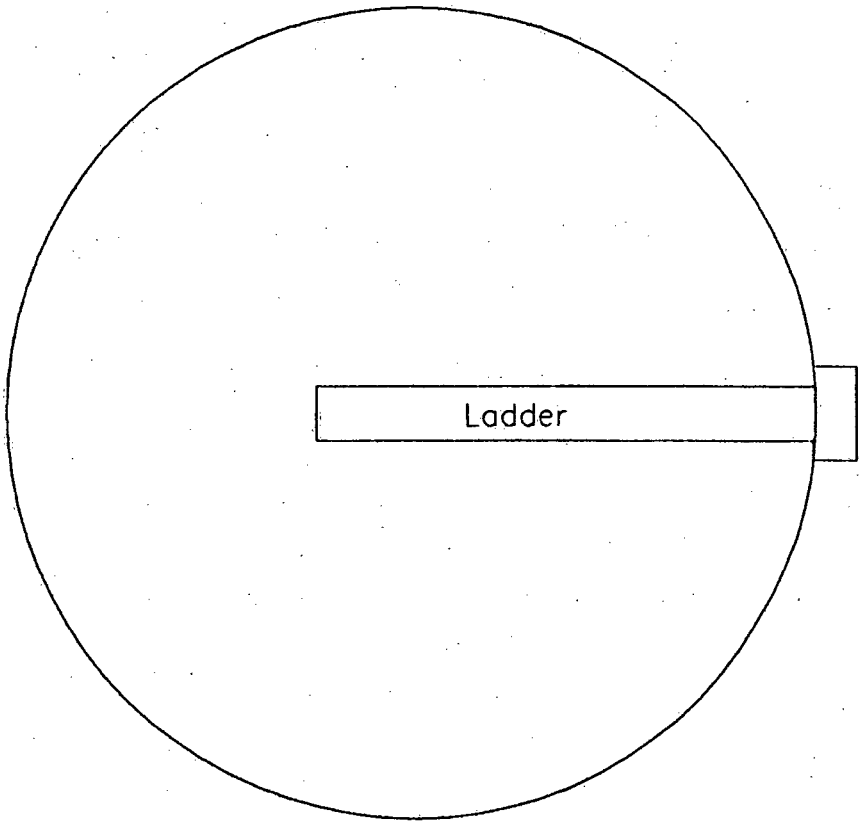
Atmospheric Storage Tank

Secondary Seal GAP Inspection Record

Tank No#:	Date Inspected:
Service:	Last Inspection:
Size, BBL:	Inspector:
Dia:	API Cert#:
Roof Type:	
Fill Height During Inspection:	

Record location & length of seal gap exceeding 1/8"

Total & Record the Gap Area: _____



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Atmospheric Storage Tank — Routine Seal Inspection Record

Tank No#:	Date Inspected:
Service:	Last Inspection:
Size, BBL:	Inspector:
Dia:	API Cert#:
Roof Type:	
Fill Height During Inspection:	

Are there any visable holes, tears, or other openings compromizing seal integrity? _____

Are there any visable defects in the floating roof itself? (holes, tears, other damage). _____

Is the roof floating uniformly on or above the liquid surface? _____

Does the roof show any signs of liquid on the surface, or sinking? _____

Is the seal uniformly in place between the roof and the tank wall? _____

If any of these conditions verify as a non-conformance then notify the Environmental Manager Immediately.

Record inspection access points and non-conformances on sketch.